

Access DB# 95526

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: GREGG CANTELMO Examiner #: 75777 Date: 6/2/03
Art Unit: 1745 Phone Number 30 5 0635 Serial Number: 09/895,163
Mail Box and Bldg/Room Location: CP3 8E09 Results Format Preferred (circle): PAPER DISK (E-MAIL)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: SEE ATTACHED

Inventors (please provide full names): SEE ATTACHED

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

~~RESEARCH~~

SEE CLAIMS AND
STRUCTURE OF COMPOSITION

\$232.27

STAFF USE ONLY:

Searcher: KRANA RM
Searcher Phone #: 301-3592
Searcher Location: EC1700
Date Searcher Picked Up: 6/5/03
Date Completed: 6/6/03
Searcher Prep & Review Time: 30 min
Clerical Prep Time: _____
Online Time: 120 min

Type of Search

NA Sequence (#) _____ STN: ☒
AA Sequence (#) _____ Dialog _____
Structure (#) ☒ Questel/Orbit _____
Bibliographic _____ Dr.Link _____
Litigation _____ Lexis/Nexis _____
Fulltext _____ Sequence Systems _____
Patent Family _____ WWW/Internet _____
Other _____ Other (specify) _____

Vendors and cost where applicable

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=> file reg

FILE 'REGISTRY' ENTERED AT 13:45:14 ON 06 JUN 2003
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUN 2003 HIGHEST RN 525536-93-0
DICTIONARY FILE UPDATES: 4 JUN 2003 HIGHEST RN 525536-93-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> file caplus

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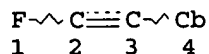
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FILE COVERS 1907 - 6 Jun 2003 VOL 138 ISS 24
FILE LAST UPDATED: 5 Jun 2003 (20030605/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

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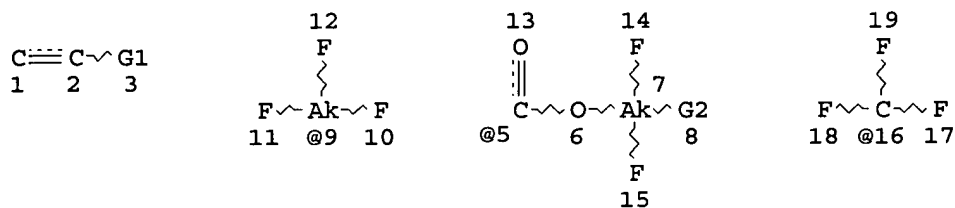
L1 STR



NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE
 L2 STR



VAR G1=9/5
 VAR G2=OH/16
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE
 L7 SCR 2043
 L9 9 SEA FILE=REGISTRY SSS FUL L7 AND L1 AND L2
 L10 7 SEA FILE=CAPLUS ABB=ON PLU=ON L9

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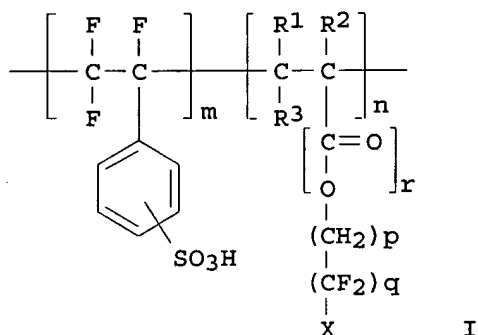
L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:31060 CAPLUS
 DOCUMENT NUMBER: 136:86247
 TITLE: Partially sulfonated fluorinated copolymer based on
 trifluorostyrene and substituted vinyl compound and
 use for ionic conductive polymer membrane for a fuel
 cell
 INVENTOR(S): Kim, Hae-Kyoung
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea
 SOURCE: Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Applicant

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|------------|
| EP 1170310 | A2 | 20020109 | EP 2001-305699 | 20010629 |
| EP 1170310 | A3 | 20020130 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| US 2002015874 | A1 | 20020207 | US 2001-895163 | 20010702 |
| PRIORITY APPLN. INFO.: | | | KR 2000-37394 | A 20000630 |

GI



AB The partially crosslinked fluorinated copolymer I is prepd., where R1-3 = F, H or Me; X = OH or F3C; m > 0; n > 0; and p, q and r .gtoreq.0. When a partially crosslinked copolymer is used, the degree of swelling of the polymer membrane and fuel crossover can be reduced. An example polymer is sulfonated heptadecafluorodecyl methacrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer.

IT 386284-80-6DP, Heptadecafluorodecyl methacrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated
386284-81-7DP, sulfonated 386284-83-9DP, Heptadecafluorodecyl acrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)

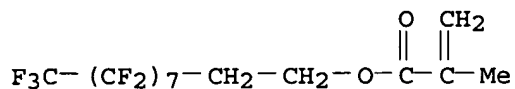
RN 386284-80-6 CAPLUS

CN 2-Propenoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-heptadecafluoroundecyl ester, polymer with (trifluoroethenyl)benzene (9CI)
(CA INDEX NAME)

CM 1

CRN 1996-88-9

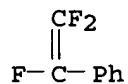
CMF C14 H9 F17 O2



CM 2

CRN 447-14-3

CMF C8 H5 F3



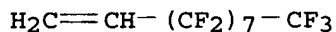
RN 386284-81-7 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluoro-1-decene (9CI) (CA INDEX NAME)

CM 1

CRN 21652-58-4

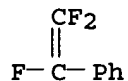
CMF C10 H3 F17



CM 2

CRN 447-14-3

CMF C8 H5 F3



RN 386284-83-9 CAPLUS

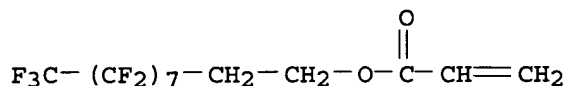
CN 2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with (trifluoroethenyl)benzene (9CI) (CA INDEX NAME)

KOROMA EIC1700

CM 1

CRN 27905-45-9

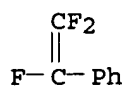
CMF C13 H7 F17 O2



CM 2

CRN 447-14-3

CMF C8 H5 F3



IC C08F212-14; C08F008-36; C08J003-24; C08J005-22; H01M008-10

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 52

ST heptadecafluorodecyl methacrylate trifluorostyrene copolymer sulfonated membrane

IT Fuel cell separators

Fuel cells

(partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)

IT Membrane electrodes

(proton exchange; partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)

IT Fluoropolymers, preparation

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(sulfonated; partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)

IT 386284-80-6DP, Heptadecafluorodecyl methacrylate-

.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated

386284-81-7DP, sulfonated 386284-82-8DP, sulfonated

386284-83-9DP, Heptadecafluorodecyl acrylate-.alpha.,.beta.,.beta.-

trifluorostyrene copolymer, sulfonated

RL: DEV (Device component use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(partially sulfonated fluorinated copolymer based on trifluorostyrene

and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:245894 CAPLUS

DOCUMENT NUMBER: 120:245894

TITLE: Polymerization of polyfluorinated styrenes in glow-discharge plasma

AUTHOR(S): Gil'man, A. B.; Shifrina, R. R.; Dvornikova, K. A.; Platonov, V. E.

CORPORATE SOURCE: Nauchno-Issled. Fiz.-Khim. Inst. im. L. Ya. Karpova, Moscow, 103064, Russia

SOURCE: Khimiya Vysokikh Energii (1994), 28(1), 84-7
CODEN: KHVKA0; ISSN: 0023-1193

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Perfluoro-.alpha.-methylstyrene, perfluoro-.beta.-methylstyrene, perfluoroallylbenzene, .alpha.-chloroperfluorostyrene, .alpha.,p-dichlorohexafluorostyrene, and .alpha.,.beta.-dichloroperfluorostyrene were polymd. in glow-discharge plasma. Rate of film formation and IR spectra of monomers and polymers are given, and various possible mechanisms of polymn. are discussed.

IT 154605-78-4P, Perfluoro-.alpha.-methylstyrene homopolymer

154605-80-8P, Perfluoro-.beta.-methylstyrene homopolymer

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in glow-discharge plasma)

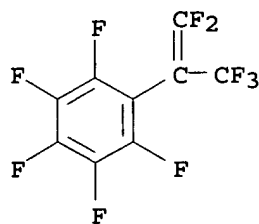
RN 154605-78-4 CAPLUS

CN Benzene, [2,2-difluoro-1-(trifluoromethyl)ethenyl]pentafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1996-63-0

CMF C9 F10



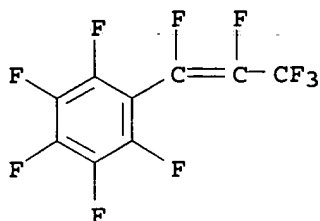
RN 154605-80-8 CAPLUS

CN Benzene, pentafluoro(1,2,3,3,3-pentafluoro-1-propenyl)-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 111302-04-6

CMF C9 F10



CC 35-4 (Chemistry of Synthetic High Polymers)
 ST perfluorinated styrene deriv plasma polymn
 IT Polymerization
 (plasma, of polyfluorinated styrenes, rates and mechanism of)
 IT 81313-10-2P, .alpha.-Chloroperfluorostyrene homopolymer
 154605-78-4P, Perfluoro-.alpha.-methylstyrene homopolymer
 154605-79-5P, Perfluoroallylbenzene homopolymer 154605-80-8P,
 Perfluoro-.beta.-methylstyrene homopolymer 154605-81-9P,
 .alpha.,p-Dichlorohexafluorostyrene homopolymer 154605-82-0P,
 .alpha.,.beta.-Dichloroperfluorostyrene homopolymer
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, in glow-discharge plasma)

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1989:478737 CAPLUS

DOCUMENT NUMBER: 111:78737

TITLE: Radiation grafting of .alpha.,.beta.,.beta.-trifluorostyrene onto various polymer films by preirradiation method

AUTHOR(S): Momose, Takashi; Tomiie, Kazuo; Ishigaki, Isao; Okamoto, Jiro

CORPORATE SOURCE: Chlorine Eng. Corp., Ltd., Tokyo, Japan

SOURCE: Journal of Applied Polymer Science (1989), 37(8), 2165-8
 CODEN: JAPNAB; ISSN: 0021-8995

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The preliminary study on the radiation grafting of .alpha.,.beta.,.beta.-trifluorostyrene onto various polymer films, mainly fluorine-contg. polymers, by preirradn. by electron beams (beam energy 500 KV, current 3.95 mA, dose 1 .times. 10⁵ Gy) was reported. Films of ethylene-tetrafluoroethylene (I) copolymer, LDPE, perfluorovinyl ether-I copolymer, I-tetrafluoropropylene copolymer, and PTFE were studied. The smaller the difference in soly. parameter between polymer and monomer, the greater was the polymer film swelling. The higher the degree of polymer film swelling, the higher the grafting rate and final percent grafting were.

IT 122164-60-7P, Tetrafluoroethylene-tetrafluoropropylene-.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer
 RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, by preirradn. of films with electron beams)

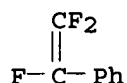
RN 122164-60-7 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

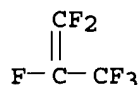
CMF C8 H5 F3



CM 2

CRN 116-15-4

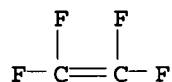
CMF C3 F6



CM 3

CRN 116-14-3

CMF C2 F4



CC 35-8 (Chemistry of Synthetic High Polymers)

ST trifluorostyrene radiation graft polymn fluoropolymer

IT Fluoropolymers

RL: USES (Uses)

(graft polymn. of trifluorostyrene on films of, by preirradn. with electron beams)

IT Electron beam, chemical and physical effects

(polymn. by, of trifluorostyrene on LDPE and fluoropolymer films)

IT Polymerization

(graft, radiochem., of trifluorostyrene, on LDPE and fluoropolymer films, by preirradn. with electron beams)

IT 112118-74-8P, Ethylene-tetrafluoroethylene-.alpha.,.beta.,.beta.-

trifluorostyrene graft copolymer 122164-58-3P, Ethylene-
.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer 122164-59-4P,
Perfluorovinyl ether-tetrafluoroethylene-.alpha.,.beta.,.beta.-
trifluorostyrene graft copolymer 122164-60-7P,
Tetrafluoroethylene-tetrafluoropropylene-.alpha.,.beta.,.beta.-
trifluorostyrene graft copolymer 122164-61-8P, Tetrafluoroethylene-
.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by preirradn. of films with electron beams)

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:155727 CAPLUS
DOCUMENT NUMBER: 110:155727
TITLE: Manufacture of fluorostyrene-methacrylate copolymer
optical fibers
INVENTOR(S): Tan, Masayuki; Motai, Tsuneaki; Yoshida, Shotaro;
Hasegawa, Shoichi
PATENT ASSIGNEE(S): Fujikura Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 63214704 | A2 | 19880907 | JP 1987-47441 | 19870304 |
| PRIORITY APPLN. INFO.: | | | JP 1987-47441 | 19870304 |

AB Optical fibers are prepd. from copolymer of octafluorostyrene (I) and octafluoromethyl methacrylate (II) as cores. Thus, a mixt. of I 50, II 50, tert-butyl hydroperoxide 0.05, and tert-Bu mercaptan 0.1 part was heated at 150.degree. to give polymers. The polymer was coextruded with a vinylidene fluoride copolymer (as sheath) to give 1-mm optical fibers having transmittance loss .apprx.110 dB/km at 640 nm and 290 dB/km at 830 nm.

IT 119875-62-6P, Octafluoromethyl methacrylate-octafluorostyrene copolymer
RL: PREP (Preparation)
(manuf. of for cores for optical fibers)

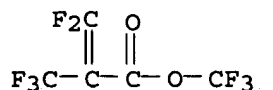
RN 119875-62-6 CAPLUS

CN 2-Propenoic acid, 3,3-difluoro-2-(trifluoromethyl)-, trifluoromethyl ester, polymer with pentafluoro(trifluoroethenyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 119875-61-5

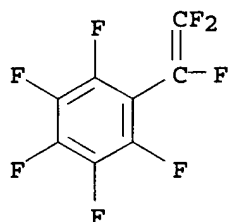
CMF C5 F8 O2



CM 2

CRN 652-23-3

CMF C8 F8



IC ICM G02B006-00

ICS C08F212-08; D01F008-10

CC 38-3 (Plastics Fabrication and Uses)

ST fluorostyrene copolymer optical fiber; fluoromethyl methacrylate copolymer optical fiber; core sheath fluoropolymer optical fiber

IT Optical fibers

(cores for, octafluorostyrene-trifluoromethyl pentafluoromethacrylate copolymers as)

IT Synthetic fibers, polymeric

RL: USES (Uses)

(fluoropolymers, optical, core-sheath)

IT 119875-62-6P, Octafluoromethyl methacrylate-octafluorostyrene copolymer

RL: PREP (Preparation)

(manuf. of for cores for optical fibers)

IT 75-38-7D, copolymers

RL: USES (Uses)

(optical fibers contg. octafluorostyrene-trifluoromethyl pentafluoromethacrylate copolymer cores and sheaths of)

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1982:493555 CAPLUS

DOCUMENT NUMBER: 97:93555

TITLE: Permselectivity of ion exchange membranes from sorption data and its relation to nonuniformity of membranes

AUTHOR(S): Wodzki, Romuald; Narebska, Anna; Ceynowa, Jozef

CORPORATE SOURCE: Inst. Chem., Nicholas Copernicus Univ., Torun, 87-100, Pol.

SOURCE: Angewandte Makromolekulare Chemie (1982), 106, 23-35

KOROMA EIC1700

CODEN: ANMCBO; ISSN: 0003-3146

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An equation was derived which relates the permselectivity of cation exchange membranes to their nonuniformity and vol. fraction of nonselective domains. Transport nos. of the H1+ ion in the membranes equilibrated with H2SO4 solns. were calcd. using sorption data according to the equation of Arnold and Swift (1967). The validity of the equation was verified by independent detn. of transport nos. using the EMF method.

IT 58813-64-2D, sulfonated

RL: USES (Uses)

(graft, membranes, permselectivity of, calcn. of)

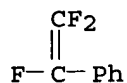
RN 58813-64-2 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

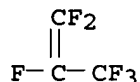
CMF C8 H5 F3



CM 2

CRN 116-15-4

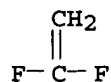
CMF C3 F6



CM 3

CRN 75-38-7

CMF C2 H2 F2



CC 38-3 (Plastics Fabrication and Uses)

KOROMA EIC1700

ST cation exchanger permselectivity nonuniformity; membrane cation exchanger permselectivity

IT Cation exchangers

(membranes, permselectivity of, calcn. of)

IT 9069-90-3D, sulfonated 58813-64-2D, sulfonated 58857-39-9

RL: USES (Uses)

(graft, membranes, permselectivity of, calcn. of)

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1979:31165 CAPLUS

DOCUMENT NUMBER: 90:31165

TITLE: Trifluorostyrene sulfonic acid membranes

INVENTOR(S): D'Agostino, Vincent F.; Lee, Joseph Y.; Cook, Edward H., Jr.

PATENT ASSIGNEE(S): Hooker Chemicals and Plastics Corp., USA; RAI Research Corp.

SOURCE: U.S., 9 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| US 4012303 | A | 19770315 | US 1974-535636 | 19741223 |
| GB 1498990 | A | 19780125 | GB 1975-51282 | 19751215 |
| FR 2295982 | A1 | 19760723 | FR 1975-38860 | 19751218 |
| BR 7508491 | A | 19760824 | BR 1975-8491 | 19751219 |
| BE 836970 | A1 | 19760622 | BE 1975-163033 | 19751222 |
| SE 7514517 | A | 19760624 | SE 1975-14517 | 19751222 |
| FI 7503626 | A | 19760624 | FI 1975-3626 | 19751222 |
| NL 7514956 | A | 19760625 | NL 1975-14956 | 19751222 |
| DE 2558393 | A1 | 19760624 | DE 1975-2558393 | 19751223 |
| NO 7504348 | A | 19760624 | NO 1975-4348 | 19751223 |
| JP 51089881 | A2 | 19760806 | JP 1975-153857 | 19751223 |
| PL 97696 | P | 19780330 | PL 1975-185926 | 19751223 |
| US 4107005 | A | 19780815 | US 1976-741163 | 19761111 |
| US 4113922 | A | 19780912 | US 1977-850194 | 19771110 |

PRIORITY APPLN. INFO.:

US 1974-535636 19741223

US 1976-741163 19761111

AB A membrane or diaphragm for various electrochem. cells such as chlor-alkali or fuel cells is obtained by irradiation. Thus, .alpha., .beta., .beta.-trifluorostyrene in an inert org. solvent is grafted onto an inert film such as tetrafluoroethylene-hexafluoropropylene copolymer by irradiation with ⁶⁰Co .gamma.-radiation, and the sulfonated. This sulfonated polymer was used in a brine electrolysis cell containing 200-235 g NaCl/L. The NaOH recovered from the cathode compartment contains less than .apprx.1% NaCl while Cl₂ is produced at a current efficiency >95%.

IT 58828-54-9D, sulfonated

RL: PRP (Properties)

(graft, for electrochem. cell membrane)

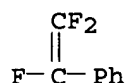
RN 58828-54-9 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

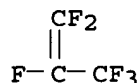
CMF C8 H5 F3



CM 2

CRN 116-15-4

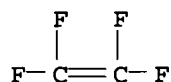
CMF C3 F6



CM 3

CRN 116-14-3

CMF C2 F4



IC C25B013-08

NCL 204159170

CC 72-10 (Electrochemistry)

Section cross-reference(s): 49

ST sulfonated fluorostyrene polymer membrane; electrochem cell sulfonated membrane; brine electrolysis sulfonated membrane; fluoroethylene fluoropropylene fluorostyrene polymer membrane; fuel cell sulfonated membrane; sodium hydroxide electroprodn sulfonated membrane; chlorine electroprodn sulfonated membrane

IT Brines

(electrolysis of, sulfonated trifluorostyrene-contg. polymer membrane for)

KOROMA EIC1700

IT Fuel cells
(sulfonate trifluorostyrene-contg. polymer membranes for)

IT Electrolytic cells
(diaphragm, sulfonated trifluorostyrene-contg. polymer for)

IT 58828-54-9D, sulfonated 67184-03-6 68778-29-0 68812-67-9
RL: PRP (Properties)
(graft, for electrochem. cell membrane)

IT 7782-50-5P, preparation
RL: PREP (Preparation)
(manuf. of, in brine electrolysis in cell with sulfonated trifluorostyrene-contg. polymer membranes)

IT 1310-73-2P, preparation
RL: PREP (Preparation)
(manuf. of, in electrolytic cell with sulfonated trifluorostyrene-contg. polymer membrane)

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1977:585328 CAPLUS

DOCUMENT NUMBER: 87:185328

TITLE: Chemical stability of trifluorostyrene-based membranes

AUTHOR(S): Ryzhov, M. G.; Vauchskii, Yu. P.; Larin, A. M.;
Vel'ts, A. A.

CORPORATE SOURCE: USSR

SOURCE: Plasticheskie Massy (1976), (2), 68-71
CODEN: PLMSAI; ISSN: 0554-2901

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The resistance to oxidative degrdn. of ion exchange membranes prepd. by sulfonation of hexafluoropropylene-CH₂:CF₂ or hexafluoropropylene-C₂F₄ copolymers with styrene (I) or .alpha.,.beta.,.beta.-trifluorostyrene (II) depended primarily on the nature of oxidizing agent (HNO₃,CrO₃-H₂SO₄, KMnO₄, etc.) and to a lesser extent on the compn. of the copolymer. The membranes prepd. from copolymers contg. II units had somewhat higher chem. resistance than those contg. I units. Higher stability of the membranes prepd. from sulfonated II-grafted hexafluoropropylene-C₂F₄ copolymer, as compared to that of sulfonated II homopolymer, was ascribed to the presence of crosslinks in the graft copolymer.

IT 58813-64-2D, sulfonated 58828-54-9D, sulfonated
RL: USES (Uses)
(graft, ion exchange membranes from, chem. and oxidative stability of)

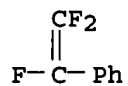
RN 58813-64-2 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1-difluoroethene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

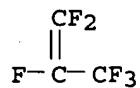
CMF C8 H5 F3



CM 2

CRN 116-15-4

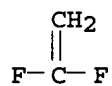
CMF C3 F6



CM 3

CRN 75-38-7

CMF C2 H2 F2



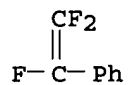
RN 58828-54-9 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

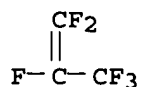
CMF C8 H5 F3



CM 2

CRN 116-15-4

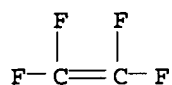
CMF C3 F6



CM 3

CRN 116-14-3

CMF C2 F4



- CC 36-4 (Plastics Manufacture and Processing)
- ST ion exchange membrane stability; fluoropolymer membrane stability; oxidn stability ion exchanger; chem stability ion exchanger; fluorostyrene ion exchange membrane; trifluorostyrene copolymer ion exchanger
- IT Cation exchangers
(membranes, fluoropolymers, chem. and oxidative stability of)
- IT 30394-23-1D, sulfonated 58813-64-2D, sulfonated
58828-54-9D, sulfonated
- RL: USES (Uses)
(graft, ion exchange membranes from, chem. and oxidative stability of)
- IT 26838-51-7D, sulfonated
- RL: USES (Uses)
(ion exchange membranes from, chem. and oxidative stability of)